PATENT CLAIMS

1. A method to monitor localisation, posture, movement or properties of one or several objects (O) to be monitored, such as human body, animal or robot in an environment to be monitored, such as in apartment, public space, industrial or office space or in an animal shelter c h a r a c t e r i z e d in that in some area of the environment to be monitored, for example in a floor, wall, or ceiling there is a transducer (TRANSDUCER MATRIX) which is composed from a distribution of conductor, such as a matrix of conductors, and said distribution of conductor includes at least the first division of conductor and the second division of conductor and that a scanning cycle is performed when to the first division of conductor is an excitation signal (HS) connected and the first signal (AS) is derived from a coupling of the excitation signal (HS) between the first and the second divisions of conductor and said signal (AS) includes some information about coupling between the first and the second divisions of conductor.

2. A method according to the claim 1 c h a r a c t e r i z e d in that said scanning cycle is repeated in respect of other divisions of conductor of the transducer (TRANSDUCER MATRIX).

3. A method according to the claim 1 or 2 c h a r a c t e r i z e d in that from said first signal (AS) one derives some information about some essentially internal properties of the object (O) such as electric conductivity and its variations, distributions of tissues in the body, distribution of fluids, function of the heart or respiration.

4. A method according to any claim above c h a r a c t e r i z e d in that from said first signal (AS) some information which is characteristic to the object (O) is derived such as information about electrical conductivity and variations in that and said information is used in purposes to recognize the object (O).

5. A method according to any claim above c h a r a c t e r i z e d in that the excitation signal (HS) evokes the second signal (IS) in special means (EV) and this signal is received by receiving means (V)

6. A method according the claim 5 c h a r a c t e r i z e d in that said second signal (IS) contains some information related to the object (O) such as information related to identification or status.

7. A method according to any claim above c h a r a c t e r i z e d in that information derived from one or both said signals (AS, IS) is evaluated using criteria which are either fixed, preset or adaptable and based on the results of the evaluation one performs known actions, such as control or alarm functions,

8. A method according to any claim above c h a r a c t e r i z e d in that information derived from one or both said signals (AS, IS) is stored in memory means in order to observe temporal dependence of behaviour of environments to be monitored and of objects (O) for example in such a way that at certain moment registered information which are derived from one or several signals (AS,IS) is stored and this information is used as reference information at later moments derived information.

9. A method according to any claim above c h a r a c t e r i z e d in that information derived from one or both said signals (AS, IS) is used to adapt a status of artificial intelligence such as an adaptive or self organising net.

10. An arrangement to monitor localisation, posture, movement or properties of one or several objects (O) to be monitored, such as human body, animal or robot in an environment to be monitored, such as in apartment, public space, industrial or office space or in an animal shelter c h a r a c t e r i z e d in that it includes transducer means(TRANSDUCER MATRIX) which is composed from a distribution of conductor including at least the first division of conductor and the second division of conductor and means to perform a scanning cycle (CENTRAL UNIT) and means to generate an excitation signal (HS) and means (MULTIPLEXER) to conduct said excitation signal to the first division of conductor of the transducer means (TRANSDUCER MATRIX) and means to derive a signal (AS) which is related to a coupling between said first and second divisions of conductor.

11. An arrangement according to the claim 10 c h a r a c t e r i z e d in that it includes means (CENTRAL UNIT) to process the signal AS from transducer

means (TRANSDUCER MATRIX) and to derive information related to properties
of the object (O) such as function of the heart, respiration or electric conductivity.

12. An arrangement according to the claim 10 - 11 c h a r a c t e r i z e d in that it
signal processing means (CENTRAL UNIT) includes means to transfer informa-
tion derived from an object forward via the first transmission path such as via

13. An arrangement according to the claim 10 - 12 c h a r a c t e r i z e d in that
the transducer means (TRANSDUCER MATRIX) include components to detect at
least two different physical quantities such as electrical coupling and acoustic
energy.

14. An arrangement according to the claim 10 - 13 c h a r a c t e r i z e d in that
the signal (AS) produced by the transducer means (TRANSDUCER MATRIX) is
based at least partially on an electric field coupling i.e. capacitive coupling be-
tween the object (O) and the transducer means (TRANSDUCER MATRIX)

15. An arrangement according to the claim 10 - 14 c h a r a c t e r i z e d in that
the signal processing means (CENTRAL UNIT) include some means which are
capable to perform some adaptive functions such as neural networks or other
means of artificial intelligence.

16. An arrangement according to the claim 10 - 15 c h a r a c t e r i z e d in that
the arrangement includes or to it there are attached some means to store spatial
information related to the transducer means (TRANSDUCER MATRIX).

17. An arrangement according to the claim 10 - 16 c h a r a c t e r i z e d in that
via the transducer means (TRANSDUCER MATRIX) some information about lo-
calization of at least one division of conductor and means to transfer this informa-
tion forward via another transmission path such as with the excitation signal (HS)
or with a radio signal.

18. An arrangement according to the claim 10 - 17 c h a r a c t e r i z e d in that
the arrangement includes special means (EV), which generate an additional sig-
nal (IS) by an effect of the excitation signal (HS).

19. An arrangement according to the claim 10 - 18 c h a r a c t e r i z e d in that it includes means or to it has been connected means to form a contact via some other transmission path, such through wired or wireless contact, to be used in receiving or transmitting control information, in receiving or transmitting localization information or receiving or transmitting time information or for other communication with other systems such as with a robot.

20. An arrangement according to the claim 10 - 19 c h a r a c t e r i z e d in that information derived from one or several signals (AS, IS, HS) is used to perform some control functions with some means of the arrangements or with some attached means, these functions may include controlling of a robot, lighting, air conditioning, alarm systems or announcement systems or controlling of locking.

21. An arrangement according to the claim 10 - 20 c h a r a c t e r i z e d in that it includes means to derive information characterising movement of an object (O) such as derive speed distribution of movement or quantities which characterises that,

22. An arrangement according to the claim 10 - 21 c h a r a c t e r i z e d in that at least a some of the distributions of conductor of the transducer (TRANSDUCER MATRIX) are placed near such surfaces, such as floor, wall and ceiling surfaces, on which or near which an object (O) has an access.

23. An arrangement according to the claim 10 - 22 c h a r a c t e r i z e d in that at least a some of the distributions of conductor of the transducer (TRANS-DUCER MATRIX) are placed near such surfaces of the environment to be monitored such as in surroundings of dangerous or valuable artefacts..

24. An arrangement according to the claim 10 - 23 c h a r a c t e r i z e d in that at least a some of the distributions of conductor of the transducer (TRANSDUCER MATRIX) is realised by using some conductors which are in constructions such as concrete iron, air conditioning pipes, water pipes or electric conductors.

25. An arrangement according to the claim 18 - 24 c h a r a c t e r i z e d in that the special means (EV) include some means, such as a RFID circuit, a trans-

ducer or an active circuit, in order to implement information in signal (IS) gener-
ated by the special means.

26. An arrangement according to the claim 18 - 25 c h a r a c t e r i z e d in that
one or several properties, such as an amplitude or a frequency of the excitation
signal (HS) are different when an signal (IS) generated by the special means (EV)
is evoked referenced to localization of an object (O).